City of Santa Barbara Sustainability Progress Report

2019

On behalf of the City Council, who promotes a cohesive sustainability vision, we are pleased to share with you the 2019 City of Santa Barbara Sustainability Progress Report.

The 1969 oil spill thrust Santa Barbara to the center of the modern environmental movement. Today, we acutely understand the weight of this collective responsibility and stand in our commitment to environmental stewardship.

The City has taken bold steps to lessen our impact on our ever-changing environment and to live within our resources. This Report inventories Key Sustainability Indicators that show where we are in relation to the sustainability goals that the City has set for itself as an organization, and for the community as a whole.

The pages that follow detail the projects and initiatives necessary to support our attainment of these goals. Highlights include: continuing to diversify our water supply portfolio, in the face of prolonged drought; setting a 100 percent renewable electricity goal for the City and the community at large; adopting a Vision Zero policy to eliminate all severe and fatal traffic-related collision; and, working in partnership with surrounding communities to build the state-of-the-art Resource Center to divert 60 percent of our refuse from regional landfills. These are just a few of examples of our sensible approach to sustainability.

Lastly, we want to thank you for your own commitment to our environment. Your actions are critical to attaining notable benchmarks like achieving historic water conservation to match historic drought conditions. Your continued focus will ensure our continued progress toward a sustainable environment.

We publish this report, offering hope for the future of Santa Barbara.

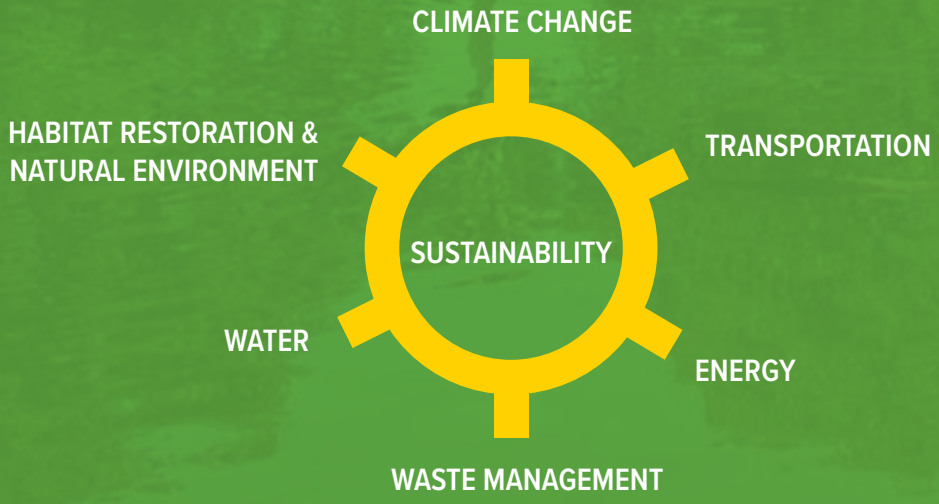
Cathy Murillo
Mayor

Randy Rowse
Chair, City Council Committee on Sustainability

SantaBarbaraCA.gov/Sustainability

The City of Santa Barbara's General Plan defines sustainability as "living within our resources." To conserve and protect the community's natural, physical, historic, and cultural resources for present and future generations, the City Council has taken bold leadership steps to encourage, incentivize, and legislate innovative strategies to conserve and enhance resources, reduce consumption, and to spur growth in the use of and access to, sustainable modes of transportation.

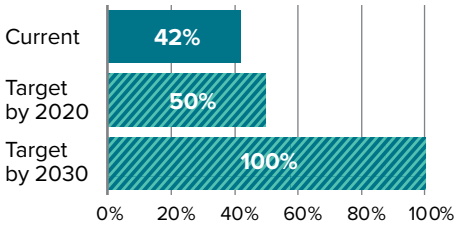
This Progress Report provides an inventory of Key Sustainability Indicators, our current performance in relation to these goals and targets, and examples of actions taken by the City and the Community since 2015 to move us closer to our goals.



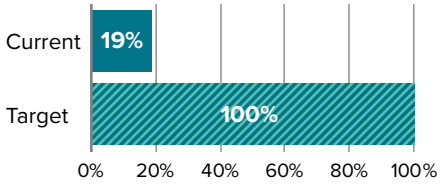
CITY OPERATIONS | *Key Sustainability Indicators*

ENERGY

Energy Used from Renewable Sources



Renewable Energy Generated at City Facilities*



**As compared to total energy used by the City*

Energy Efficiency

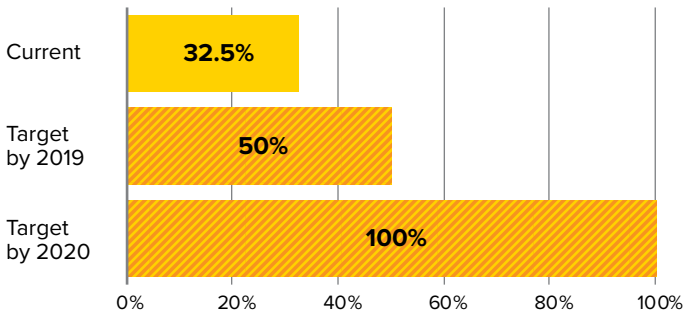
City saves **$650,000** and **4,244,082** kiloWatt hours annually

WASTE MANAGEMENT

City Facilities Waste Diversion Rate

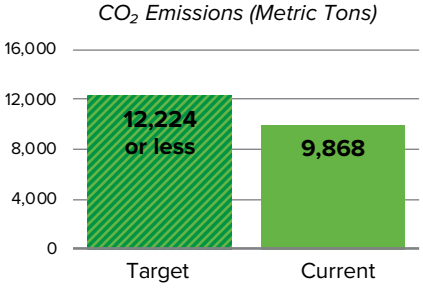
To achieve the goal of 75 percent waste diversion across City facilities, we are working with each facility to assess their trash services, provide waste reduction education, and increase participation in diversion programs.

Percent of City Facilities Assessed and Diverting 75 percent of Waste from Landfill Disposal



CLIMATE CHANGE

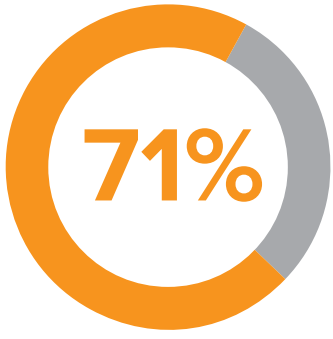
City-Specific Greenhouse Gas Emissions



TRANSPORTATION

Percentage of City Fleet Vehicles Using Alternate Fuels*

(where alternative fuel option exists)



**Electric Vehicle, Renewable Diesel, Compressed Natural Gas*

HABITAT RESTORATION

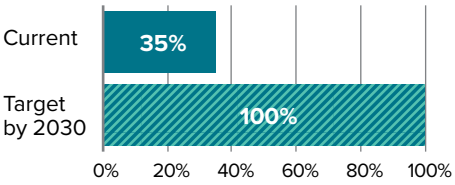
Number of Urban Forest Trees Planted Annually

225 trees

COMMUNITYWIDE | *Key Sustainability Indicators*

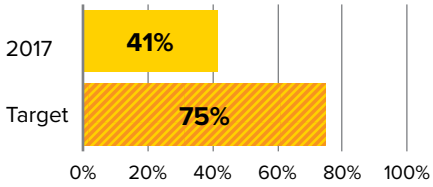
ENERGY

Energy Used from Renewable Sources



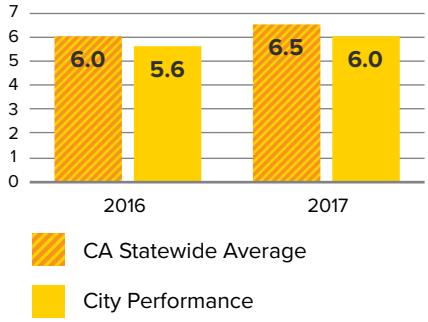
WASTE MANAGEMENT

Curbside Waste Diverted from Landfill Disposal



Daily Waste Disposal Limit

Pounds of trash disposed per resident per day



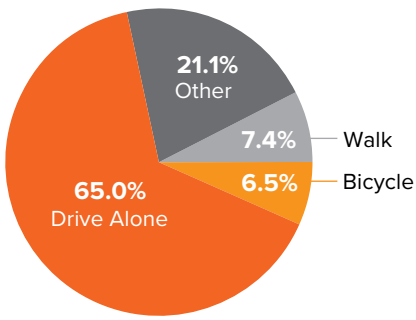
CLIMATE CHANGE

Communitywide Greenhouse Gas Emissions

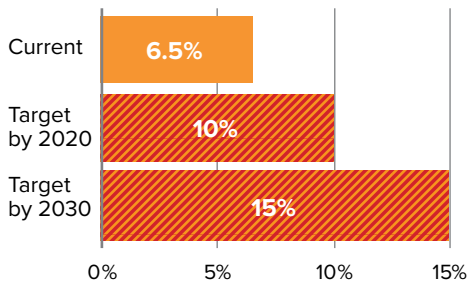
Year	Community Emissions (MTCO2e)	Community Emissions (relative to 1990)
1990	743,644	0%
2005	630,880	-15%
2010	595,266	-20%
2015	535,055	-28%

TRANSPORTATION

How Residents Commute to Work



*Residents Commuting by Bicycle**

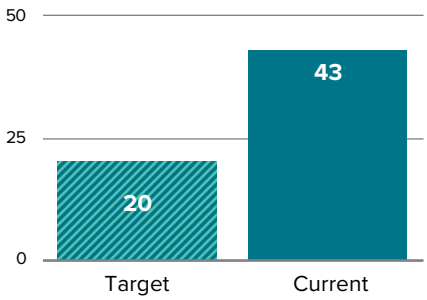


**Formal targets not yet established for Walk, Transit and Drive Alone modes.*

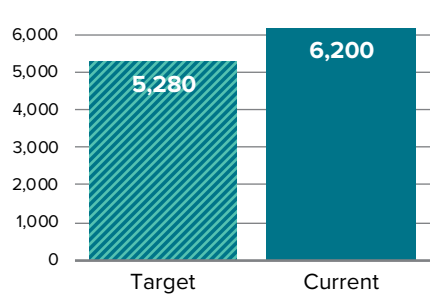
HABITAT RESTORATION

Increased Riparian Habitat*

Restored habitat (acres)



Restored habitat (linear feet)

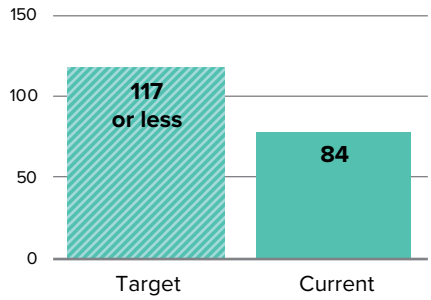


Riparian refers to terrain that is adjacent to creeks, streams and rivers.

WATER

Water Use

Gallons used per person per day



Combating Climate Change

WHAT AND WHY: Worldwide scientific consensus is that accelerated global climate change is occurring as a result of increasing amounts of greenhouse gases (GHG) in the atmosphere. Climate change leads to more extreme weather events, increased risk of devastating wildfire, prolonged drought conditions, and loss of coastal resources from sea level rise. The City Council is a leader in the climate change arena, adopting a Climate Action Plan in 2012 to help the City reduce its GHG emissions and to plan to adapt to climate change effects, joining the worldwide Global Covenant of Mayors to combat climate change, and, joining with the "Climate Mayors" in 2017 to uphold the Paris Climate Agreement.

HOW: Transportation, Energy, and Waste Management are the primary sources of greenhouse gas emissions in the City of Santa Barbara. The City is actively reducing greenhouse gas emissions by facilitating access to and use of sustainable modes of transportation, conserving energy and increasing its portfolio of renewable energy sources, and by capturing recyclables and diverting carbon-emitting organics from landfill disposal. Not surprisingly, policies and actions that reduce emissions also help us to "live within our resources."

To adapt to the effects of climate change, City Council recently adopted an update to the Coastal Land Use Plan and is developing a Sea Level Rise Adaptation Plan (SantaBarbaraCA.gov/SLR) that will assess the City's vulnerabilities to sea level rise and analyze the feasibility, economic impacts, and environmental consequences of various adaptation strategies for the low-lying and coastal bluff areas of the City. The City will continue to plan for climate change through updates to the City's Hazard Mitigation and Wildland Fire Plans.

SantaBarbaraCA.gov/ClimateChange

TOP: The City is developing a Sea Level Rise Adaptation Plan for low-lying areas and coastal bluffs in the City. **BOTTOM:** Climate Change leads to more extreme weather events, including wildfire.

"The City is responding to climate change by developing a variety of greenhouse gas emission reduction programs and climate adaptation efforts."

Sustainable Transportation

WHAT AND WHY: Sustainable modes of transportation include walking, bicycling, alternative fuel vehicles, carpooling, and public transit, which emit fewer greenhouse gases than single-occupant fossil-fuel powered vehicles and lessen vehicle congestion, thus improving our quality of life.

HOW: The City is working to improve access to and use of sustainable transportation through long-range planning (Bicycle and Pedestrian Master Plans) that includes the construction of pedestrian and bicycle infrastructure projects like multiuse paths, bike lanes, sidewalks, access ramps, bicycle racks/storage facilities, and other innovative programs Shared Mobility Programs. To improve bicycle and pedestrian safety, the City Council adopted Vision Zero, aimed at ending severe or fatal transportation-related injuries in Santa Barbara by 2030. Vision Zero encompasses education, engineering, enforcement and evaluation strategies.

The City has also made substantial progress in recent years to convert its own vehicle fleet from conventional fuel to alternative fuels including hybrid, electric, and renewable diesel. The City continues to have success with their own WorkTRIP Program, which provides incentives to employees carpooling and taking transit/train to work and continues to pay for a yearly bicycle tune-up for employees to encourage bicycling to and from work.

SantaBarbaraCA.gov/SustainableTransportation

WORKTRIP

To reduce the use of Single-Occupancy Vehicle trips and to promote employee wellness, the City encourages employees to use the City Bike Fleet, located at City facilities throughout town, to get around during the work day.

VISION ZERO SANTA BARBARA

VISION ZERO

Vision Zero is a strategy based on an underlying principle that it can never be acceptable that people are killed or seriously injured when moving on public roadways. In 2016, City Council established a Vision Zero Policy to eliminate all severe and fatal transportation-related collisions on City streets by 2030.

BIKE INFRASTRUCTURE

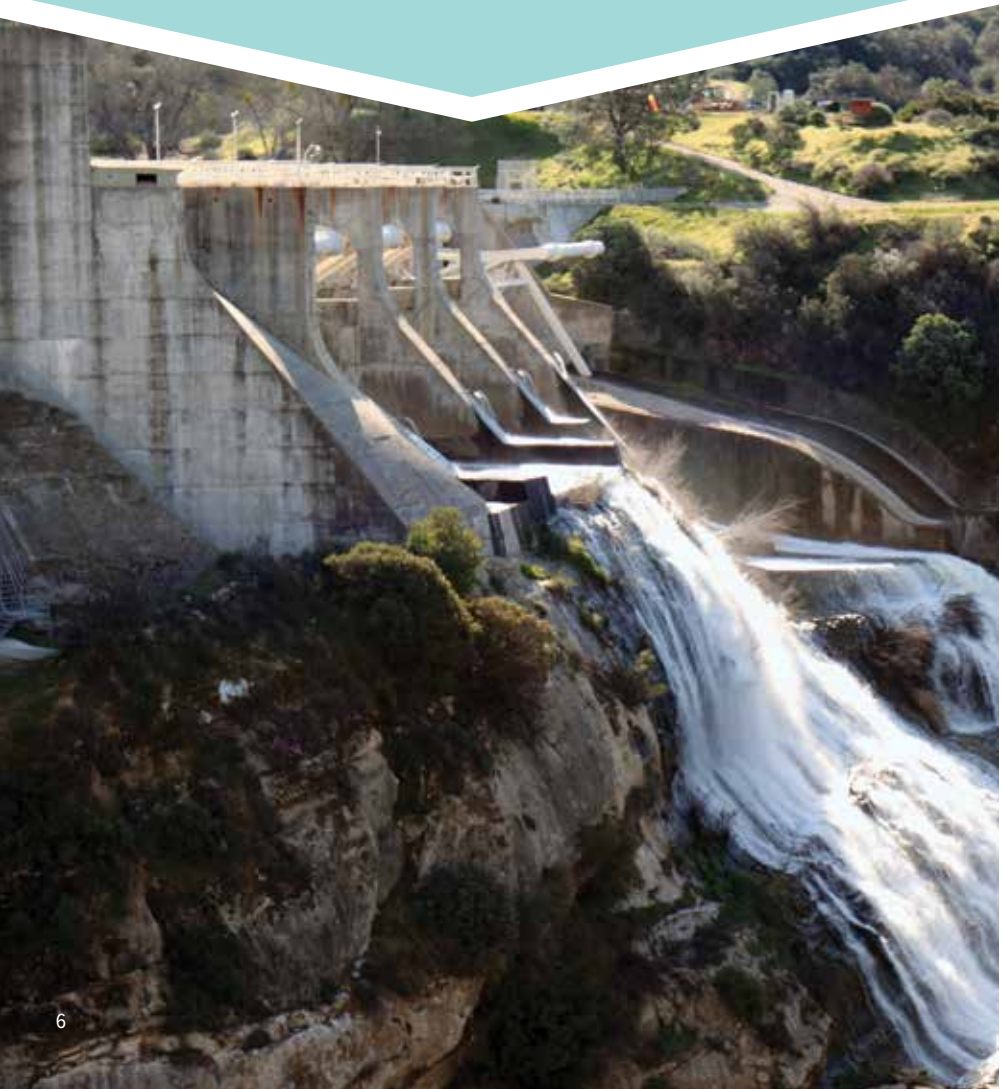
The City is continually updating and improving our network of bicycle routes. In the next several years, three significant Bicycle Boulevard projects will be implemented, one on the Westside, one on the Eastside, and one connecting the two. These projects will close gaps in the bike infrastructure system and promote safe and sustainable transportation here in Santa Barbara.

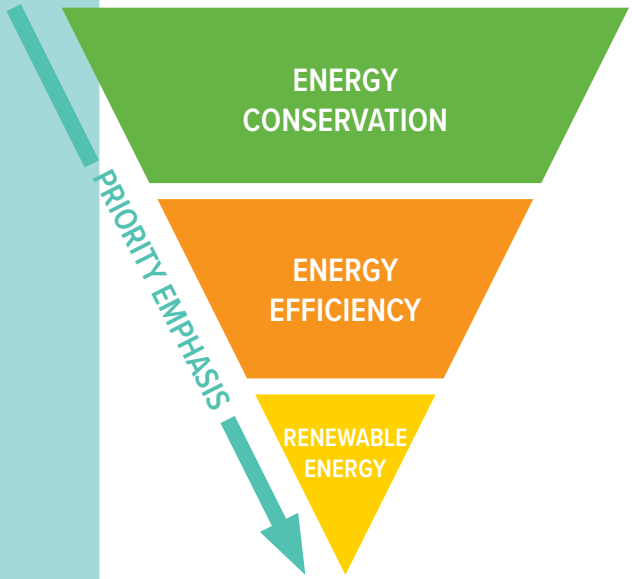
Energy

WHAT AND WHY: Wise energy management is also key to combatting climate change as energy produced by burning fossil fuels emits carbon dioxide and other greenhouse gases. Reducing the amount of energy we use and replacing conventional energy sources with renewable sources such as solar and wind, can dramatically reduce our carbon footprint.

HOW: The City is a leader in innovative energy management. In June 2017, the City Council adopted an ambitious 100 percent renewable electricity goal for both City infrastructure and the community at large by 2030. We are developing a Strategic Energy Plan, to be published in 2019, that will serve as a roadmap for achieving these goals. The Roadmap will follow the Energy Management Hierarchy, that prioritizes energy conservation and efficiency followed by the development of renewable sources such as solar power.

SantaBarbaraCA.gov/Energy





CITY INFRASTRUCTURE

Energy Efficiency

As a major energy user on the South Coast, the City has worked diligently to lower its energy demand. Energy efficiency upgrades to City facilities saved 4,642 megawatt hours of energy. Converting most of the City's 4,000 streetlights to LED fixtures has saved enough energy to power 100 homes. Using grant funds from the California Energy Commission, the City is currently developing a slate of energy efficiency and renewable energy projects with the goal to convert City facilities to *Zero Net Energy*. A Zero Net Energy building produces as much energy as it uses.

CITY INFRASTRUCTURE

Renewable Energy

In addition to energy efficiency, the City continues to develop its portfolio of renewable energy projects. The City owns or has power purchase agreements for 500 kilowatt hours of solar arrays. Additionally, approximately 1.4 megawatts of solar projects are currently in development, including a new solar array at the Airport, which will produce up to 95% of the Terminal's energy demand.

The City continues to generate renewable energy from its water system as well. El Estero Wastewater Water Resource Center uses a cogeneration facility to harness the methane produced from the digesters, converting it to electricity capable of meeting 70 percent of the plant's electrical demand. Gibraltar Hydroelectric plant harnesses the energy from water as it is received from Gibraltar Reservoir. In years when water is available, energy production can cover the majority of the needs at the Cater Water Treatment Plant. Finally, the City's reactivated Charles E. Meyer Desalination Plant uses 40 percent less energy than the previous plant in the 1990s through an innovative brine energy recovery system.

COMMUNITY

Energy Efficiency and Renewable Energy

Fostering energy efficiency and developing renewable energy on private property is key to achieving communitywide energy goals.

In 2015, the City Council adopted an ordinance to streamline the permitting process and construction requirements to install solar energy systems on public and private properties throughout the community. In 2017, the City Council authorized Property Assessed Clean Energy (PACE) in the community (SantaBarbaraCA.gov/PACE). PACE is a tool to help business and residential property owners to finance energy efficiency and renewable energy projects, including solar energy systems and electrical vehicle charging stations. The City also participates in the South Coast Energy Efficiency Partnership (sceep.org), which has brought $990,000 in energy efficiency incentive dollars since 2009. The Strategic Energy Plan will also identify strategies for encouraging and increasing deployment of distributed energy resources throughout the community and will help the City achieve its 100 percent renewable electricity goal.

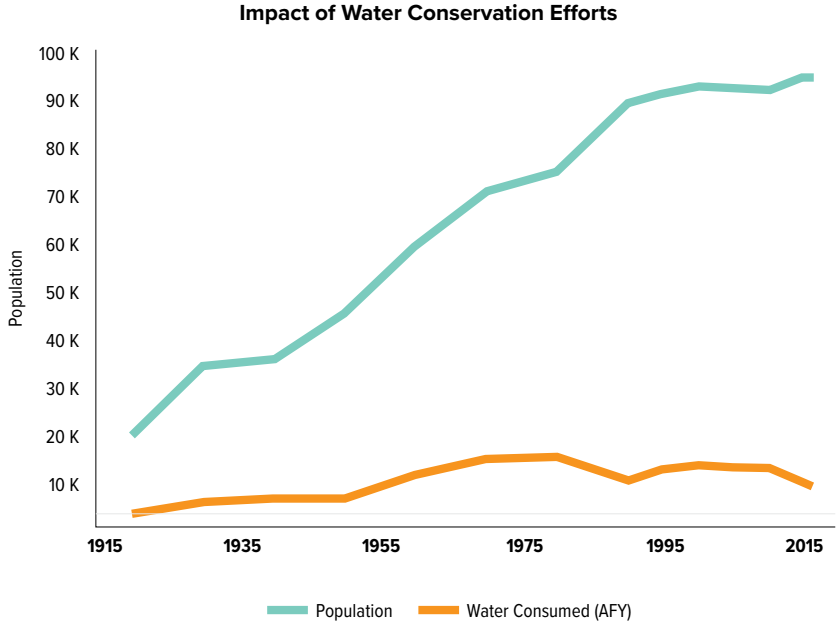
PREVIOUS PAGE: Water conveyed from Gibraltar Reservoir to the City produces renewable hydroelectric energy; **THIS PAGE FROM TOP:** City solar array at the SB Airport; biogas generated at El Estero Water Resource Center; retrofitting 4,000 streetlights; flywheel at the Gibraltar hydroelectric plant.

“One Water”

WHAT AND WHY: Water is one of Santa Barbara’s most precious resources and it is essential to everything we do. It sustains our public health and safety, the natural environment, our food supply, and our economy. Santa Barbara experiences frequent drought conditions. Protecting and conserving this vital resource has never been more important. The impacts of climate change are already here and meeting the challenges they pose will require new and innovative ideas and approaches to sustain our community and the environment. The simple truth is that all water has value; surface water, seawater, groundwater, wastewater, and everything in between, and thus must be managed in a sustainable, inclusive, integrated way. Collectively this perspective is referred to as “One Water”.

HOW: The City is developing a One Water strategy, which will integrate these various sources of water and will view them holistically, taking into consideration the economic, environmental, and social impacts of the City’s diverse sources of water. While our focus is water, our goal is a thriving local economy, a vibrant community, and healthy ecosystems.

SantaBarbaraCA.gov/Water



“One Water is a systems thinking approach to integrated water resources management. Regardless of the condition of the water, the simple truth is that all water has value.”

– JOSHUA HAGGMARK, WATER RESOURCES MANAGER

Thanks to an extraordinary commitment to conservation, community water use has decreased to the same level it was in the 1950s despite a population growth that has doubled since that time.

CLOCKWISE FROM TOP: Vactor truck used to clean the City's wastewater mains; Charles E. Meyer Desalination Plant; Gibraltar Reservoir; Before and after landscape rebate participant.

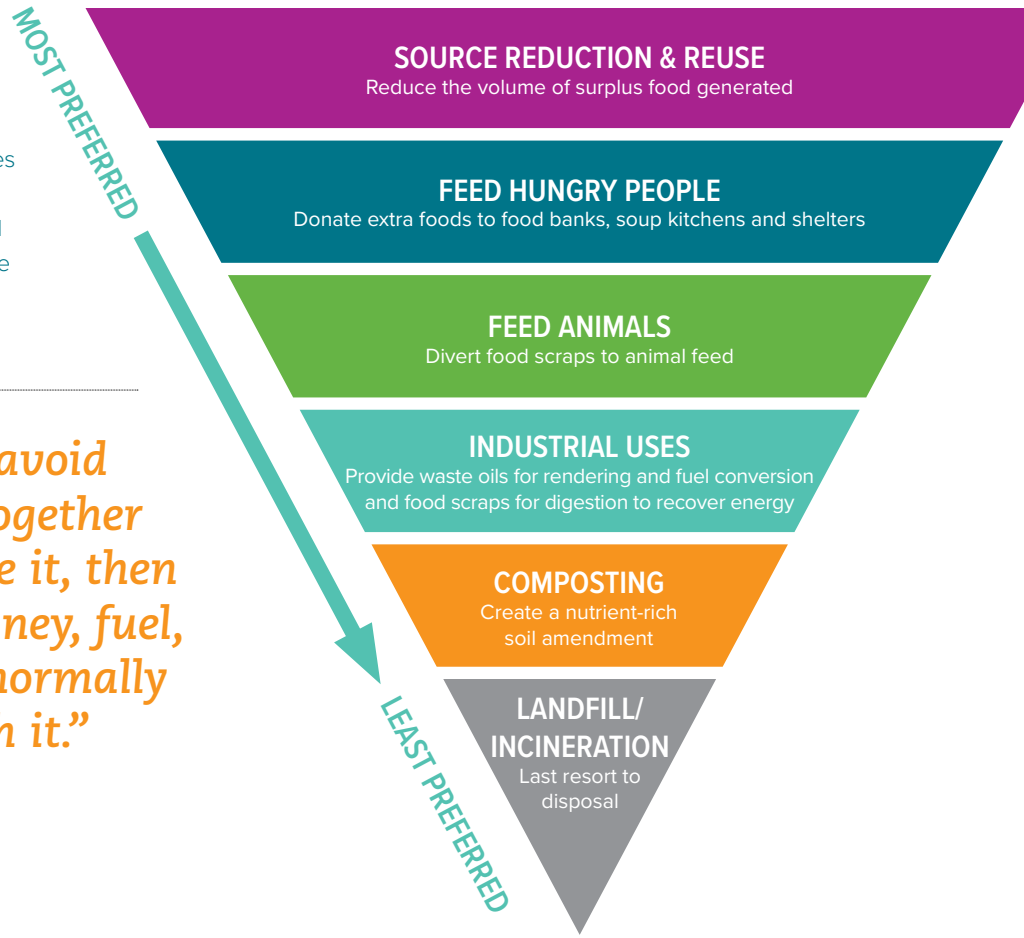
- Water Supply Portfolio Diversity: In the face of historic, prolonged drought, the City reactivated the Charles E. Meyer Desalination Plant, which converts ocean water to potable water, supplying 30% of our water demand. The reactivation of the Desal plant further diversifies the City's water supply portfolio, increasing water reliability and resiliency.
- Water Recycling: The City's recycled water plant treats and distributes approximately one million gallons per day of recycled water for irrigation, lowering the demand on our potable water supplies.
- Water wise landscaping rebates have resulted in 740,000 square feet of high water use lawn replacement, equal to 13 football fields. Over 6,500 free sprinkler nozzles have been redeemed by water customers to retrofit older, less-efficient sprinklers.
- The City uses a No-DES flushing truck to clean the water distribution pipelines during annual maintenance. The truck circulates the water, filters it, and puts it back into the system, saving thousands of gallons annually.
- The City maintains 256 miles of wastewater main to protect the environment and public health. The City is purchasing a new recycled water truck for cleaning the wastewater collection system, which will nearly eliminate the use of potable water and increase productivity.
- The El Estero Water Resource Center treats the community's wastewater and recovers resources such as energy, nutrients and water. Biogas produced at the facility is used to generate electricity. Biosolids are composted and applied to farms and parks and recycled water is used to irrigate parks, schools, and other sites.

Solid Waste

WHAT AND WHY: How we handle our waste products has a dramatic impact on the environment. The best option is to avoid generating waste altogether — if we don't produce it, then we save the time, money, fuel, and other resources normally expended to deal with it. For waste products that we do generate, recycling and composting has a much lower environmental impact than landfilling. Recycling certain waste materials into new products can have a much lower environmental impact than manufacturing them from raw materials. Organic material (foodwaste and greenwaste) generates methane, a potent greenhouse gas, as it decomposes in landfills. The City develops and delivers services to help businesses and residents to divert waste through reuse, recycling, and composting, which uses less water and energy, protects our natural resources, and emits less greenhouse gases compared to landfill disposal.

SantaBarbaraCA.gov/Recycle

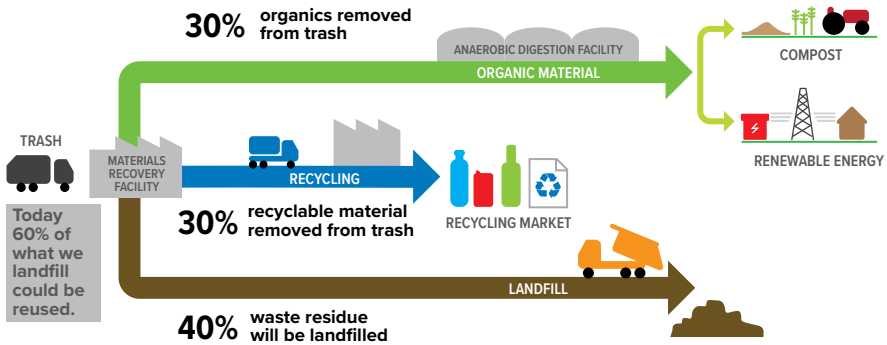
THE FOOD RECOVERY HIERARCHY prioritizes actions that we can all take take to prevent and divert wasted food. Each tier of the Food Recovery Hierarchy focuses on different management strategies for your wasted food. The top levels of the hierarchy are the best ways to prevent and divert wasted food because they create the most benefits for the environment, society, and the economy.



"The best option is to avoid generating waste altogether — if we don't produce it, then we save the time, money, fuel, and other resources normally expended to deal with it."

HOW:

- Reducing landfill disposal is the City's primary waste management goal. To achieve this goal, we are working to improve outreach and education about more sustainable purchasing decisions, and promoting reuse and reusable materials over single-use. To reduce plastic pollution in the environment, the City Council adopted ordinances banning the distribution of plastic grocery bags, polystyrene containers, and plastic straws, while encouraging reusable substitutes to these low quality single-use items.
- We work with hundreds of businesses, property owners, and renters each year to capture recyclables and organic waste at the source, segregating these materials for collection, and diverting them from the landfill.
- The City is working with the County of Santa Barbara and other partner jurisdictions to construct the ReSource Center (formerly known as the Resource Recovery Project), a regional waste processing plant that will divert a minimum of 60% of our curbside trash from landfill disposal. The ReSource Center is expected to begin sorting in 2021.



The ReSource Center will include a Materials Recovery Facility (MRF) to recover recyclable or compostable materials from our trash. The MRF will sort out recyclables mistakenly thrown in the trash stream so that they can be sold on the recycling market along with other source-separated blue bin recyclables.

The MRF will also sort out organic material (food, paper, wood, etc.) which will be sent to an onsite anaerobic digester and converted into compost and renewable energy. The extra processing of our trash will decrease the amount of material we send to the landfill, increasing the life of our landfill.

FROM TOP: Plastic straws collected at a local beach cleanup; Business foodscraps dumpster filled with organic material which will be composted instead of being dumped in our landfill; Kitchen staff discarding foodscraps into the yellow bin composting program; Business foodscraps, recycling, and trash carts placed curbside for pickup.

Habitat Restoration and Natural Environment

WHAT AND WHY: Careful management of coastal, riparian, and inland habitats, including creeks, oak woodlands, coastal sage scrub, and the urban forest, is key to sustaining the natural and built environment in the City. Thriving natural ecosystems provide wildlife habitat and maintain biodiversity, enhance water storage and replenish groundwater supplies, protect and improve air and water quality by filtering pollutants, and improve our quality of life by providing us shade and natural beauty.

Healthy creeks and watersheds, native vegetation, and urban forests also play an important role in fighting climate change. Vegetation of all types remove excess carbon (through photosynthesis) from the atmosphere and store it in the soil. The natural and urban forest provides shade and lowers surface temperatures, thus combatting the urban "heat island" effect.

HOW: The City's Creeks Division aims to improve creek and ocean water quality through storm water and urban runoff pollution reduction, creek restoration, and community education programs. The Parks Division plants and maintains City street, park, and public facility trees for the benefit of residents, and to ensure a safe and healthy community forest.

SantaBarbaraCA.gov/Creeks

"Healthy creeks, watersheds, and urban forests play an important role in fighting climate change."

Creek Restoration Since 2015

- **Arroyo Burro Open Space Restoration**
  Restoration of an approximately 21 acre open-space park, including more than 1,600 linear feet of creek restoration, installation of 600 trees, and 6,900 native plants.
- **Arroyo Burro Restoration at Hidden Valley**
  A 2.8 acre restoration project along 1,500 linear feet of Arroyo Burro in Hidden Valley Park, installation of 130 trees, and nearly 1,200 native plants.
- **Arroyo Burro Restoration at Barger Canyon**
  Restoration of 2,200 linear feet of Arroyo Burro on a 15.5 acre open space parcel, installation of 250 trees and 4,200 native plants.
- **Invasive Plant Removal Program**
  The City has removed over 400,000 square feet of the invasive Giant Reed (Arundo donax) from Santa Barbara's creeks and surrounding areas.
- **Andrée Clark Bird Refuge Restoration**
  Plans are being developed for water quality improvements and wildlife habitat restoration in and around the 29 acre lake within a 42.4 acre open space park.

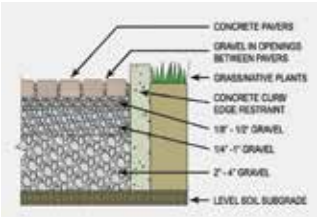
Urban Forest

The City maintains an urban forest of 34,300 trees on City streets and property.

Bee City USA

The City of Santa Barbara manages and maintains 348 acres of developed parkland and 1,227 acres of open space. The City also carefully follows an Integrated Pest Management Strategy, which aims to reduce the amount and toxicity of pesticides that we use. Recognizing the critical role that bees and other pollinators play in supporting agriculture and the natural environment everywhere, in 2017, the City Council became a member of Bee City USA.

Storm Water Quality Improvement



The City has installed permeable pavers at seven locations (over 250,000 square feet) to capture run-off and allow the underlying soil to remove and treat pollutants before they flow to our creeks and oceans.

FROM TOP: California Conservation Corps members remove invasive Arundo donax from Arroyo Burro; Barger Canyon Restoration; Permeable pavers at Oak Park to promote storm water infiltration.

ACKNOWLEDGEMENTS

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For more information, visit
SantaBarbaraCA.gov/Sustainability